

2/2 031

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124850

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE WIDTH OF THE NEAR ANODE LAYER IN A THERMIONIC ENERGY CONVERTER FILLED WITH BA,CS IN A TRANSVERSE MAGNETIC FIELD WAS INVESTIGATED EXPTL. VOLT AMPERE (V,A) CHARACTERISTICS ARE SHOWN FOR CATHODE, BA, AND CS TEMPS. OF 1893, 936, AND 373DEGREESK, RESP. A SMALL CURRENT INCREASE IN THE SATN. REGION IS EXPLAINED BY WIDENING OF THE NEAR ANODE LAYER. THE VALUES OF THIS WIDTH CALCD. BY V. I. KUZNETSOV, ET AL. (1970) WERE CONFIRMED EXPTL. BY ANAL. OF THE V,A CHARACTERISTICS. THE COMPENSATION DEGREE MAY BE DETD. IF THE WIDENING OF THE NEAR ANODE LAYER IS TAKEN INTO ACCOUNT.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--EXPERIMENTAL STUDY OF THE EFFECT OF A TRANSVERSE MAGNETIC FIELD ON  
THE VOLT AMPERE CHARACTERISTICS OF THE THERMIONIC CONVERTER IN A KNUDSEN  
AUTHOR--(05)-BAGANIN, V.I., BARABASH, M.B., GAYDO, G.K., DUNAYEV, YU.A.,  
KRAVINSKIY, YU.G.  
COUNTRY OF INFO--USSR **B**  
SOURCE--ZH. TEKH. FIZ. 1970, 40(3), 561-6.  
DATE PUBLISHED-----70

SUBJECT AREAS--ENERGY CONVERSION (NON-PROPULSIVE), PHYSICS

TOPIC TAGS--VOLT AMPERE CHARACTERISTIC, CATHODE, ANODE, BARIUM, CESIUM,  
MAGNETIC FIELD EFFECT, THERMIONIC ENERGY CONVERSION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/2259

STEP NO--UR/0057/70/040/003/0561/0566

CIRC ACCESSION NO--AP0125837

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125837

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OVER A WIDE RANGE OF CATHODE TEMPS. AND OF BA AND BA PLUS CS PRESSURES, THE INCREASE IN THE FIELD STRENGTH RESULTS IN A DECREASE IN THE SATN. CURRENT FOR THE CONVERTER. THIS IS IN GOOD QUAL. AGREEMENT WITH THE THEORETICAL CONCLUSIONS. IN A TRANSVERSE MAGNETIC FIELD THE CURRENT DOES NOT ACHIEVE SATN. WITH AN INCREASE IN THE POS. POTENTIAL ON THE ANODE BUT CONTINUES TO INCREASE, THE EFFECT BEING MORE PRONOUNCED FOR LOW CURRENT VALUES. THE INCREASE IN THE CURRENT MAY BE DUE TO A NO. OF REASONS, ONE OF WHICH IS THE WIDENING OF THE PREANODE ZONE.

UNCLASSIFIED

USSR

UDC 577.1:615.7/9

(2)

BABANOV, G. P., ISAKHANOV, A. L., BUROV, YU. A., SKOBEY, N. A., BABANOV, A. G.  
and SAVRASOVA, L. I.

"Formation of the Adaptation of the Organism Under the Effect of Nitrile"  
Acrylate as a Low-Intensity Factor of the Production Environment"

V sb. Toksikol. i gigyena produktov neftekhimii i neftekhim. proiz-v (Toxicology  
and Hygiene of the Products of Petrochemistry and the Petrochemical Production  
-- collection of works), Yaroslavl', 1972, pp 45-58 (from RZh-Biologicheskaya  
Khimiya, No 8, 1973, Abstract No 8F2171)

Translation: Rats were forced to inhale nitrile acrylate for 6 months (I;  
 $0.495 \pm 0.01 \text{ mg/m}^3$ , 5 hours a day, 6 days a week). The I treatment caused some  
increase in the number of erythrocytes in the blood (more expressed only  
during the first month of treatment) and a reduction in the number of leuco-  
cytes (more expressed after 4-5 months), an increase in the total amount of  
protein in the blood serum as a result of albumen and from the second half of  
the effect of I -- gamma-globulins -- an increase in the free SH-group content  
in the liver (during the initial period of the treatment) and to a lesser  
degree in the blood serum and a reduction in the ascorbic acid content in the  
blood serum and also some increase in the activity of the blood peroxylase and  
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USSR

(2)  
BABANOV, G. P., et al., Toxicology and Hygiene of the Products of Petro-chemistry and the Petrochemical Production -- collection of works, Yaroslavl', 1972, pp 45-58

catalase. In the second half of the treatment, the changed indexes increased to the initial level. The treatment with I caused increase resistance to the animals to the effect of extremal factors (temperature drops --  $+5^{\circ}$ , 10 minutes; reduced  $O_2$  partial pressure, ethanol narcosis -- 3 g/kg, intraperitoneal). Under the acute effect of I ( $183 \text{ mg/m}^3$ , 2 hours) the changes in the majority of investigated indexes were insignificant. The conclusion was drawn regarding development of adaptation of the organism under the effect of low I concentrations.

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1/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--EFFECT OF PHASE AND CHEMICAL TRANSFORMATIONS OF COMPONENTS OF  
SAUSAGE MEAN ON ITS THERMOPHYSICAL CHARACTERISTICS -U-

AUTHOR--(02)-BABANOV, G., CHERNYY, A.

COUNTRY OF INFO--USSR

SOURCE--MYAS. IND. SSSR 1970, 41(2), 31-4

B

DATE PUBLISHED-----70

8

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--FOOD, PROTEIN, THERMAL DIFFUSION, THERMAL CONDUCTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605015/007 STEP NO--UR/9086/70/041/002/0031/0034

CIRC ACCESSION NO--AP0140599

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140599

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EMPIRIC FOR LAS ARE GIVEN FOR THE  
CALCN. OF THE COEFFS. OF THERMAL DIFFUSIVITY AND CONDUCTIBILITY AND OF  
THE SP. THERMAL CAPACITY OF BEEF AND PORK MEAT AND OF PORK FAT SHOWING  
THE HEAT EFFECT AT 20-80DEGREES. FACILITY: UKR. NAUCH, ISSUED.  
INST. MYAS. MOLOCH. PROM., USSR.

UNCLASSIFIED

USSR

UDC 577.1:615.7/9

BABANOV, G. P., ISAKHANOV, A. L., BUROV, YU. A., SKOBEY, N. A., BABANOV, A. G.  
and SAVRASOVA, L. I.

"Formation of the Adaptation of the Organism Under the Effect of Nitrile'  
Acrylate as a Low-Intensity Factor of the Production Environment"

V sb. Toksikol. i ghyena produktov neftekhimii i neftekhim. proiz-v (Toxicology  
and Hygiene of the Products of Petrochemistry and the Petrochemical Production  
-- collection of works), Yaroslavl', 1972, pp 45-58 (from RZh-Biologicheskaya  
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 $0.495 \pm 0.01 \text{ mg/m}^3$ , 5 hours a day, 6 days a week). The I treatment caused some  
increase in the number of erythrocytes in the blood (more expressed only  
during the first month of treatment) and a reduction in the number of leuco-  
cytes (more expressed after 4-5 months), an increase in the total amount of  
protein in the blood serum as a result of albumen and from the second half of  
the effect of I -- gamma-globulins -- an increase in the free SH-group content  
in the liver (during the initial period of the treatment) and to a lesser  
degree in the blood serum and a reduction in the ascorbic acid content in the  
blood serum and also some increase in the activity of the blood peroxydase and  
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USSR

BABANOV, G. P., et al., Toxicology and Hygiene of the Products of Petro-chemistry and the Petrochemical Production -- collection of works, Yaroslavl', 1972, pp 45-58

catalase. In the second half of the treatment, the changed indexes increased to the initial level. The treatment with I caused increase resistance to the animals to the effect of extremal factors (temperature drops --  $+5^{\circ}$ , 10 minutes; reduced  $O_2$  partial pressure, ethanol narcosis -- 3 g/kg, intraperitoneal). Under the acute effect of I (183 mg/m<sup>3</sup>, 2 hours) the changes in the majority of investigated indexes were insignificant. The conclusion was drawn regarding development of adaptation of the organism under the effect of low I concentrations.

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USSR

UDC: 621.391:519.2

BABANOV, Yu. N. MANUKYAN, S. G.

"Increasing the Interference Resistance of Radio Systems With Grouped Signal Transmission in the case of a Frequency-Modulated Carrier"

V sb. Metody pomekhoustoychivogo priyema ChM i FM (Methods of Interference-Free FM and PM Reception--collection of works), Moscow, "Sov. radio", 1970, pp 221-230 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A43)

Translation: The authors consider a radio communications systems in which selectivity is increased in relationship to signals from extraneous radio systems whose frequency spectra are within the range of the passband of the radio system. The group method of signal transmission is used in combination with frequency modulation of the carrier. It is shown that the effect of regular extraneous interference signals has a periodic pulse action. Group transmission makes it possible in receiving a signal with FM carrier to spread out the pulse energy of the interference signals over time segments much greater than the duration of each interference pulse. In addition to protection by the direct dispersal of interference energy, the compensating device of a receiver with FM carrier offers possibilities for additional protection by compensating interference oscillations through the use of information on the interference entering the i-f amplifier from the image channel. Resumé.  
1/1

USSR

UDC 621.583.292.8

SABANOV, ZH.N., KOTOV, V.D., KUNIK, S.B.

"Secondary Electron Emitter With Increased Resistance To Electron Bombardment"

V sb. Vopr. elektron. tekhn. (Problems Of Electronics Technology--Collection Of Works), No 2, Saratov, Saratov University, 1971, pp 229-231 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A200)

Translation: The technology of a secondary-emission emitter based on platinum--beryllium oxide was developed in order to increase resistance to electron bombardment. An emission layer 6-8 micrometer thick is deposited by ion-plasma sputtering of the components in an argon atmosphere. The maximum secondary emission coefficient equals 3.5 at an energy of the primary electrons of  $\sim 600$  V. A.D.

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USSR

UDC: 621.396.69:621.316.8(088.8)

BABANOVA, O. R., KLIMENSKAYA, D. N., LEPIK, I. P.

"A Method of Making Wirewound Resistors"

USSR Author's Certificate No 262226, filed 20 Sep 68, published 20 May 70  
(from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V342 P)

Translation: This method of making wirewound resistors up to 1 mm in diameter involves applying resistive material to the base of the resistor. As a distinguishing feature of the patent, resistors with a given rating and low scatter of parameters are produced by using a twisted glass thread made up of thin fibers and impregnated with resistive material as the vaporizer and batcher. This thread is placed immediately beneath the resistor base and transported together with the base through a heated oven.

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Corrosion

USSR

UDC 621.762.001

KRASNICHENKO, L. V., ROSS, M. G., and BABANSKIY, V. V.

"Electrochemical Corrosion of Iron-Graphite P/M Alloy and Ways of Combating It"

V sb. Treniye, smazka i iznos mashin (Friction, Lubrication and Wear of Machinery -- Collection of Works), Rostov-on-Don, 1970, pp 3-8 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 3G373 by S. Bobrova)

Translation: An investigation was made of iron-graphite alloy with 3% graphite having a density of  $20 \pm 2\%$  after sintering on untreated specimens and on specimens protected by: 1) impregnation with urotropin inhibitor, 2) phosphate treatment, 3) impregnation with sodium benzoate, 4) nickel-phosphorus coating. A qualitative evaluation of the effectiveness of the protection employed was made by the method of comparing maximum corrosion currents in 0.5 n. NaCl solution. The maximum corrosion current ( $8 \cdot 10^{-2}$  ma) is observed in the untreated specimens and declines successively from 1) to 4). The relative quantitative corrosion performance is determined by the gravimetric method in 0.5 n. NaCl solution at  $22-24^{\circ}$  over a test period of 60 days. The most effective protective technique in this case is phosphate treatment. The porosity of the phosphate coating conduces to swifter penetration of the base metal by the corrosive  
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USSR

KRASNICHENKO, I. V., et al., V sb. Treniye, smazka i iznos mashin, Rostov-on-Don, 1970, pp 3-8

solution on application of an electric current, and this lessens the resistance of this coating. Two illustrations, bibliography with three titles.

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USSR

UDC 669.295.5:620.183

AGEYEV, N. V., BABAREKO, A. A., RUBINA, Ye. B., KHOREV, A. I.,  
KRASNOZHON, A. I., and BETSOFEN, S. Ya., Moscow

"Effect of the Processing Technology on the Texture of Rolled  
Sheets of VT-5-1 and VT-14 Titanium Alloys"

Moscow, Izvestiya Akademii Nauk SSSR, No 5, 1973,  
pp 150-159

Abstract: The development of the texture of  $\alpha$ -phase in sheets, 2 mm thick, of VT-5-1 alloy and  $\alpha+\beta$ -alloy VT-14 on rolling, depending on the reduction degree, the deformation, temperature, and the divisibility of rolling, was studied by the method of polar figures. The results are discussed by reference to the correlation of principal texture components and direct and reverse polar figures. The intensity of the basal plane texture in the  $\alpha$ -phase VT-5-1 alloy grows monotonously with increasing reduction degree. In the  $\alpha+\beta$  alloy VT-14, the basal texture changes not monotonously by changing deformation conditions;

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USSR

AGEYEV, N. V., et al., Izvestiya Akademii Nauk SSSR, No 5, 1973, pp 150-159

this is due to the influence of developing phase transformations  $\alpha \rightarrow \beta$  and the twinning in the alloy. Cross rolling of the not overheated ingot slab from 6 to 2 mm, in 11-22 passages, at 700°C, or at 800°C by non fractional rolling is considered the optimum rolling system. A perfect basal texture in annealed sheets of VT-5-1 alloy leads to a high hardening effect at two-axial loading. Recrystallization annealing is of little effect on the type of the texture. A deflected basal texture of the VT-14 alloy does not effect a texture hardening in annealed and in dispersion-hardened sheets. Four figures, one table, ten bibliographic references.

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USSR

UDC 669.295:620.136.5

PETROVA, L. A., BABAREKO, A. A., GRANKOVA, L. P., KOZLOVSKAYA, T. M., and SAZONOVA, T. N., Institute of Metallurgy imeni A. A. Baykov

"Recrystallization of  $\beta$ -Alloy of IVT-1 Titanium"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 11, 1972, pp 30-34

Abstract: The ionization method of taking texturograms was used for plotting polar figures. The changing character in annealing of polar figures describes the process of recrystallization. Specimens were cut from a bar forged by broaching in two perpendicular directions at 950°C. The specimens were annealed in air at 400-1200°C with 30 min aging at each temperature. The textures of specimens of different grain size and boundary character in continuous heating up to 700°C are discussed by reference to microstructures and polar figures. Specimens annealed at 600°C showed a considerably changed texture in comparison with the initial texture. This is connected with the beginning recrystallization, which is practically completed at 650°C. Extrusion or forging by a more complex method is recommended for obtaining stable properties of normal forging on two mutually perpendicular surfaces. Two figures, one bibliographic reference.

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USSR

UDC 539.214;539.374

KURYLEV, V. F., BABANSKIY, V. D.

"On the Problem of the Elastic-Plastic Deformation of a Cylindrical Shell"

Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr. (Works of the All-Union Scientific Research and Design Institute of Chemical Machine Building), 1972, No. 56, pp 39-42 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3V450)

Translation: The solution of A. A. Il'yushin is generalized for the axisymmetric problem of the elastic-plastic deformation of a cylindrical shell to the case of the presence of an axisymmetric load. The results of the paper are of interest in developing a technique for calculating the strength of vessels and equipment in the presence of their local plastic deformations. Authors' abstract.

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Phytology

USSR

UDC 633.11:582.285.2

BABAYAN, A. A., and KHACHATRYAN, G. A., Armenian Scientific Research Institute of Plant Conservation

"ON Factors Influencing the Germination of Uredospores of Stem Rust of Wheat (*Puccinia graminis* f. *tritici*)"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 25, No 1, 1972, pp 60-68

Abstract: Experiments were conducted to study factors affecting germinating capacity of uredospores in the period of development of uredopustules in plants and in artificial media. Infected wheat shoots were separated when formation of uredopustules became apparent. Some were placed under bell jars, humidity 83-90%, other were left open, humidity 28-44%. Average germination of uredospores in the first group was 59%, in the second, 0.8%. Uredospores were submitted to 50° temperature for 30 minutes, then 4 hours in a moist chamber. Results of this test show that germination of uredospores is significantly increased by warm temperatures and high humidity; however, germinating capacity of uredospores subjected to heat only was not stimulated. Readiness of germination of uredospores is stimulated in diluted cell liquid of leaves of plants in the family Gramineae, and in Berberidaceae and Chrysanthemum, but not in such plants as rose, apple, apricot, and tomato.

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USSR

BABAYAN, A. A., and KHACHATRYAN, G. A., Biologicheskiy Zhurnal Armenii,  
Vol 25, No 1 1972, pp 60-68

Readiness of germination of uredospores of *P. graminis* is also stimulated by a 0.01% solution of 2,4 dichlorophenoacetic acid, a 0.005% concentration of NRV [petroleum growth stimulator], and others. The controlling factor in the germination of uredospores in nature is relative humidity of the atmosphere.

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USSR

UDC: 539.4:624.012

BABAYAN, A. A., AZARYAN, R. G.

"Concerning the Question of Crack Resistance and Strength of Oblique Sections of Bendable Light Ferroconcrete Elements"

Sb. nauch. tr. Yerevan. politekhn. in-t (Collected Scientific Works. Yerevan Polytechnical Institute), 1970, 25, pp 74-79 (from RZh-Mekhanika, No 5, May 72, Abstract No 5V398)

Translation: The paper describes the testing of 16 ferroconcrete girders with concretes of grades 250 and 350 on a stone-and-pumice filler. The girders measured 200 x 24 x 15 [sic]. Class A-II reinforcement 14 and 16 mm in diameter was used. Bending tests were done by symmetric loading in two sections. Flexures, the width of opening of sloping cracks, and deformations of the concrete and the reinforcement were measured. It was found from the results that the crack resistance of supporting sections of the girders is ensured with fulfillment of the condition

$$Q < K_1 R_p b h_0.$$

where  $Q$  is the magnitude of the transverse force,  $R_p$  is the strength of the

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USSR

BABAYAN, A. A., AZARYAN, R. G., Sb. nauch. tr. Yerevan. politekhn. in-t,  
1970, 25, pp 74-79

concrete under uniform tension,  $b$  and  $h_0$  are the width and effective height of the cross section respectively, and  $K_1$  is a constant assumed to be equal to 0.85. Destruction of the girders took place from brittle shear of the concrete in the compressed zone. The expression

$$Q_{max} = \frac{K_2 R_u b h_0^2}{C},$$

is taken as the basis for the limiting load in accordance with existing standards, where  $R_u$  is the bending compression strength of the concrete, and  $C$  is the projection of the sloping crack on the axis of the girder. According to experimental data,  $K_2$  ranges from 0.101 to 0.134 and depends on the strength of the concrete, and also on the percentage of reinforcement. It is proposed for grade 250 concrete that  $K_2$  should be taken as

$$K_2 = \begin{cases} 0.10 & \text{when } \mu < 1.5\% \\ 0.12 & \text{when } \mu > 1.5\% \end{cases}$$

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USSR

UDC: 624.154

Anonymous

"In the USSR Gosstroy"

Podol'sk, Osnovaniya fundamenty i mekhanika gruntov, No 5, 1972,  
inside covers

Abstract: Recommendations are made in this article on piling standards to be observed by all ministries and offices of the Soviet Union and the State Committees for Construction (GOSSTROY) of the Union Republics. These recommendations delineate the utilization area of various types of construction piling, and were developed with the participation of leading design and scientific research organizations engaged in the study of foundation piles. The first recommendation is that the choice of piling in foundation design should be made on the basis of technical-economic comparisons, with the availability of the proper production and material resources to the client and contractor, as well as the present recommendations, taken into account. Twelve additional recommendations, each specified in fairly extensive detail, are made.

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USSR

BABAYAN, A. A., AZARYAN, R. G., Sb. nauch. tr. Yerevan. politekhn. in-t, 1970, 25, pp 74-79

where  $\mu$  is the percentage of reinforcement. It is noted that upper vertical cracks may appear on the support section. A criterion is proposed for evaluating the crack resistance of the upper zone, and recommendations are made on reinforcement of this zone. M. M. Kholmyanskiy.

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USSR

UDC 633.11+582.285.2(479.25)

BABAYAN, A. A., and SARKISYAN, D. Zh. D., Armenian Scientific Research  
Institute of Plant Protection

"Comparative Resistance of Some Wheat Varieties to Races of Stem Rust in  
Armenia"

Yerevan, Biologicheskii Zhurnal Armenii, No 8, 1971, pp 13-17

Abstract: Twenty winter wheat and 10 spring wheat varieties from the Soviet Union, Mexico, and the United States were tested for susceptibility to a number of races of stem rust found in Armenia (1k, 1l, 15, 34, 40, 57k, 17, 21, and mixture of races). Of the 20 Soviet varieties, only Aurora, Kavkaz, Skorospelka 35, Bezostaya 2, and Predgornaya 2 exhibited noticeable resistance. Five of six Mexican wheats (Tobari 66, 7-Cerros, Inia 66, Lerma-Royo 64, Ciano-F-67) proved to be highly resistant. All four American spring varieties (Verdl Seeds 1809, Verdl Seeds 1812, Red River 68, Verdl Seeds 1877) were fairly resistant except Verdl Seeds 1877 which proved to be susceptible to two races (1k, 21). All four American varieties also exhibited high resistance to stem rust in a field experiment despite the presence of infection in nearby susceptible varieties.

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USSR

UDC 632.95

YESAYAN, G. T., DZAKUBIYAN, G. A., KHACHATRYAN, R. M., YESAYAN, A. A.,  
KHACHATRYAN, V. S., Institute of Organic Chemistry, Academy of Sciences  
Armenian SSR

"A Method of Preparing 3-Nitro-4-oxybenzyl Ether of 2,4-Dichlorophenoxyacetic  
Acid"

USSR Authors' Certificate No 248657, filed 24 Jun 63, published 26 Feb 70  
(from Referativnyy Zhurnal Khimiya, No 17, 10 Sept 70, Abstract No 17 1643 P)

Translation: 3-Nitro-4-oxybenzyl ether of 2,4-dichlorophenoxyacetic acid (I)  
is excess of formalin, and a 500-1000% excess of hydrochloric acid at 85-  
100°C with subsequent condensation of the resultant 3-nitro-4-oxybenzylchloride  
(III) with the sodium salt of 2,4-D at 90-100°C for 12 hrs in *thf* or *xy*lone.  
500 gm II, 600 gm 34%  $\text{CH}_2\text{O}$ , and 3600 ml 35% hydrochloric acid are heated to  
90-95°C with agitation for 12 hrs, then poured into a beaker for crystalliza-  
tion; the excess acid is removed by decanting, and the product is washed in  
water to produce 750 gm III. 187 gm of unpurified compound III, 315 gm of  
the sodium salt of 2,4-D and 100 ml *thf* are heated at 100°C for 12 hrs; after  
water filtering, the product is dried in air. The result is 357 gm I with a  
yield of 95.9%, melting point 95°C( $\text{CCl}_4$ ). I has herbicidal properties against  
weeds in corn, potatoes, and grapes.

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A. F. Prokof'yeva

USSR

UDC 542.947+547.526.554

BABAYAN, A. T., TAGMAZYAN, K. Ts., TOROSYAN, G. O., Institute of Organic Chemistry of the Academy of Sciences of the Armenian SSR, Yerevan

"Cyclization-Cleavage of Quaternary Ammonium Salts"

Yerevan, *Armianskiy Khimicheskiy Zhurnal*, Vol XXIV, No 12, 1971, pp 1077-1078

Abstract: Quaternary ammonium salts containing an allyl group [A. T. Babayan, et al., *Arm. Khim. Zh.*, Vol 19, No 1, 678, 1966] or a propargyl group [A. T. Badayan, et al., *DAN Arm. SSR*, Vol 48, No 1, 54, 1969] along with the pent-4-en-2-yne group form dihydroisoindolinium and isoindolinium salts in an aqueous alkali. A scheme is proposed for this reaction by which ring formation is preceded by protropic isomerization of the pent-4-en-2-yne group with the formation of an  $\alpha$ -allene group. It was proposed that the catalytic effect of the alkali occurred in this stage. As a result of prolonged heating of a dimethylformamide solution of dimethylpropargylammonium bromide (melting point 103-104°) in boiling water, dimethyldihydroisoindolinium bromide was obtained in almost quantitative yield. The structure of the cyclic product was proved by alkaline cleavage.

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USSR

UDC 542.921+547.333.4

MINASYAN, R. B., INDZHIKYAN, M. G., BABAYAN, A. T., Institute of Organic Chemistry, Yerevan, Academy of Sciences Armenian SSR

"Research in the Field of Amines and Ammonium Compounds. LXVIII. Alkaline Splitting of Quaternary Ammonium Salts Containing the 1-Alkoxy-2-Bromoethyl Group"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970, pp 234-239

Abstract: In a previous paper by these same authors (Izv. AN ArmSSR, KhN, 18, 572, 1965), it was shown that quaternary ammonium salts containing the 1-ethoxy-2-bromoethyl group, in addition to a group of the allyl type, are dehydrobrominated by alkali hydroxide followed by regrouping and splitting with the formation of esters of the free acids produced by ester hydrolysis. It is reported in this article that substitution of the butoxyl group for the ethoxy group completely suppresses alkaline hydrolysis, resulting in the formation of nothing but unsaturated carboxylic acid esters. For instance, alkali hydroxide splitting of dimethylallyl(1-butoxy-2-bromoethyl)ammonium bromide yields only butyl ester of butene-3-carboxylic acid (64%). Similarly interacting alkali with bromine salts of dimethylmethallyl(1-butoxy-2-bromoethyl)-

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USSR

MINASYAN, R. B., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970, pp 234-239

and dimethyl- $\alpha$ -methylcrotyl(1-butoxy-2-bromoethyl)-ammonium produces butyl esters of 3-methylbutene-3-carboxylic (59%) and 2-methylpentene-3-carboxylic (63%) acids. Nucleophilic substitution or hydration of the  $\alpha$ -alkoxyvinyl group may take place in quaternary ammonium salts in an alkali hydroxide. Results of investigation of alkaline splitting are tabulated for six compounds.

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USSR

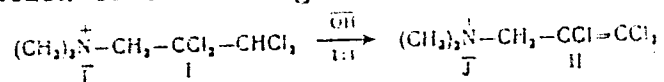
UDC 542.921+547.333.4

EABAYAN, A. T., MARTIROSYAN, G. T., DAVTYAN, N. M., Institute of Organic Chemistry, Academy of Sciences Armenian SSR

"Research in the Field of Amines and Ammonium Compounds. LXVII. Splitting of Quaternary Ammonium Salts Containing Alkyl Halide Groups"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970,  
pp 292-204

**Abstract:** It is shown that interaction of trimethyl(2,2,3,3-tetrachloropropyl)ammonium iodide (I) with an equimolecular quantity of alcohol alkali produces trimethyl(2,3,3-trichloroallyl)ammonium iodide (II), i.e. splitting of the first molecule of hydrogen chloride takes place exclusively through the hydrogen atom from the  $\alpha$ -position to the nitrogen:

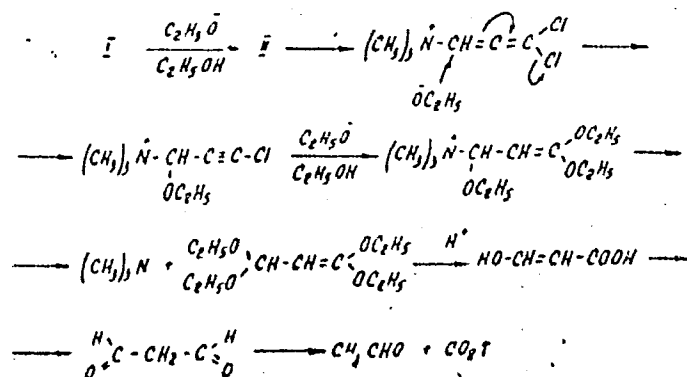


Substitution of an alcohol solution of sodium ethylate for the alkali hydroxide gives trimethylamine (75%), acetaldehyde (52.6%) and carbon dioxide gas:

1/3

USSR

BABAYAN, A. T., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 3, 1970, pp 292-294

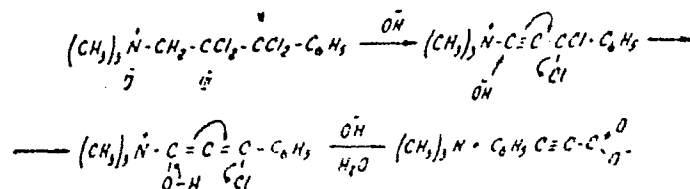


When trimethyl(2,2,3,3-tetrachloro-3-phenylpropyl)ammonium iodide is interacted with alkali hydroxide, all chlorine atoms are converted to the ionic state yielding trimethyl-amine (95%) and phenylpropionic acid (91%):

2/3

USSR

BABAYAN, A. T., et al., Armyanskiy Khimichskiy Zhurnal, Vol 23,  
No 3, 1970, pp 292-294



3/3



1/2 011 UNCLASSIFIED PROCESSING DATE--30UC170  
TITLE--SYNTHESIS AND REACTIONS OF BETA,GAMMA UNSATURATED AMINES. IX.  
AMINATION OF ISOPRENE AND STYRENE BY PRIMARY MONO AND DIAMINES -U-  
AUTHOR-(04)-MARTIROSYAN, G.T., KAZARYAN, A.T.S.; GRIGORYAN, E.A., BABAYAN,  
A.T.  
CCUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970, 6(3), 446-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CHEMICAL SYNTHESIS, AMINE DERIVATIVE, ISOPRENE, STYRENE,  
BENZENE DERIVATIVE, PRIMARY AMINE, SECONDARY AMINE, TERTIARY AMINE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FAME--1992/1666 STEP NO--UR/0366/70/006/003/0446/0449  
CIRC ACCESSION NO--AP0112660  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0112660

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE AMINATION OF H SUB2  
C:CMECH:CH SUB2 WITH 1 EQUIV. RNH SUB2 (R EQUALS PR OR BU) IN THE  
PRESENCE OF NA METAL, 56.4PERCENT RN(CH SUB2 CH:CME SUB2) SUB2 (I) AND  
12.9PERCENT RNHCH SUB2 CH:CME (II) WERE FORMED. WHEN 5 EQUIVS. RNH SUB2  
WERE USED, THE YIELDS OF I AND II WERE, RESP., 32 AND 35PERCENT. USING  
PHCH:CH SUB2, THE REACTION WITH 1 EQUIV. RNH SUB2 GAVE 56.2PERCENT RN(CH  
SUB2 CH SUB2 PH) SUB2 (III) AND 23.9PERCENT RNHCH SUB2 CH SUB2 PH (IV).  
WHEN 3 EQUIVS. RNH SUB2 WERE USED, THE YIELDS OF III AND IV WERE, RESP.,  
0 AND 57.2PERCENT. THESE DIFFERENCES ARE DUE TO THE INTRAMOL.  
TRANSAMINATION OF II LEADING TO INTERMEDIATES, SUCH AS (RN PRIME  
NEGATIVE CH SUB2-CH:CME SUB2)NA PRIME POSITIVE, WHICH IS IMPOSSIBLE IN  
THE CASE OF IV. THE REACTION OF II WITH PHCH:CH SUB2 OR IV WITH H SUB2  
C:CMECH:CH SUB2 GAVE 52.1-94PERCENT RN(CH SUB2 CH SUB2 PH)CH SUB2 CH:CME  
SUB2. FACILITY: INST. ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

1/3 009 UNCLASSIFIED PROCESSING DATE--15OCT70  
TITLE--AMINES AND AMMONIUM COMPOUNDS. LXVI. SPLITTING OF QUATERNARY  
AMMONIUM SALTS CONTAINING ALKYL HALIDE GROUPS -U-  
AUTHOR-(03)-DAVTYAN, N.M., MARTIKOSYAN, G.T., BABAYAN, A.T.  
COUNTRY OF INFO--USSR  
SOURCE--ARM. KHIM. ZH. 1970, 23(1), 38-44  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--QUATERNARY AMMONIUM SALT, IODIDE, AMINE, BROMIDE, ALDEHYDE,  
CHEMICAL DECOMPOSITION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1995/1448 STEP NO--UR/0426/70/023/001/0038/0044  
CIRC ACCESSION NO--AP0116888  
UNCLASSIFIED

2/3 009 UNCLASSIFIED PROCESSING DATE--16OCT70  
 CIRC ACCESSION NO--AP0116888  
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING  
 2,3,DICHLOROALLYLTRIMETHYLAMMONIUM IODIDE (I) WITH 5 MOLAR EQUIVS.  
 20PERCENT NAOH AT 100DEGREES GAVE 80PERCENT ME SUB3 N (PICRATE M.  
 215DEGREES) IN THE DISTILLATE. A TOTAL OF 40PERCENT PROPYNAL WAS ALSO  
 FORMED, 15PERCENT AS SUCH (2,4,DINITROPHENYLHYDRAZONE (DNPH) M.  
 123DEGREES), AND 25PERCENT AS DERIVED ACETYLENE AND FORMIC ACID.  
 3,3,DICHLOROALLYLTRIMETHYLAMMONIUM IODIDE (II) REFLUXED 6 HR WITH 5  
 MOLES NAOET GAVE 69PERCENT ME SUB3 N AND 34PERCENT  
 1,1,3,TRIETHOXY,2,PROPENE (III), B SUB15 89-90DEGREES, D PRIME20 0.9168,  
 N PRIME20 SUBD 1.4249. III WITH ACID GAVE MALONALDEHYDE (DI DNPH M.  
 295DEGREES); WITH BR IT GAVE 2,8BROMO,3,3,DIETHOXYPROPIONALDEHYDE, B SUB6  
 67-70DEGREES, N PRIME23 SUBD 1.4538 (DI DNPH M. 198DEGREES).  
 3,3,DICHLOROALLYLTRIMETHYLAMMONIUM BROMIDE SIMILARLY GAVE 72PERCENT ME  
 SUB3 N AND 25PERCENT III. 3,3,DICHLOROALLY(ALLYL)(DIMETHYL)AMMONIUM  
 BROMIDE (IV) GAVE 84.5PERCENT ME SUB2 NH (2,CYANOETHYL DERIV. B SUB680  
 165-7DEGREES; PICRATE M. 153DEGREES), AND 55PERCENT  
 2,ALLYL,1,1,3,3,TETRAETHOXYPROPANE (V), B SUB2 70-20DEGREES, N PRIME20  
 SUBD 1.4472; WITH ACID IT GAVE THE CORRESPONDING ALDEHYDE; DI DNPH M.  
 278DEGREES. IV WITH MECH NAOH GAVE ME SUB2 NH AND  
 2,ALLYL,1,1,3,3,TETRAMETHOXYPROPANE, B SUB3 67-80DEGREES, D PRIME20  
 1.0066, N PRIME20 SUBD 1.4588. 2,3,DICHLOROALLYLTRIMETHYLAMMONIUM  
 BROMIDE WITH NAOH ETOH GAVE 80PERCENT ME SUB3 N AND 60.8PERCENT III.  
 2,3,DICHLOROALLY(ALLYL)(DIMETHYL)AMMONIUM BROMIDE WITH NAOH ETOH GAVE  
 70PERCENT ME SUB2 NH AND 25PERCENT V.

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116888

ABSTRACT/EXTRACT--I REFLUXED 6 HR WITH MEQH NAOH GAVE 70.5PERCENT OF A  
COMPO. C SUB8 H SUB18 O SUB2 IN (VI), M. 152DEGREES; 4.1PERCENT  
1,1,3,TRIMETHOXY,2,PROPENE, B SUB680 138-40DEGREES, D PRIME20 0.957, N  
PRIME20 SUBD 1.4102, AND 25PERCENT ME SUB3 N. I SIMILARLY GAVE  
78PERCENT VI, 17.5PERCENT ME SUB3 N, AND 6PERCENT III. II HEATED 6 HR  
AT 40-50DEGREES WITH NAOH ETCH GAVE 50PERCENT ME SUB3 N, AND 80.5PERCENT  
NON CRYST. C SUB10 H SUB22 O SUB2 IN. DISTG. VI WITH AQ. NAOH GAVE  
80PERCENT ME SUB3 N; ACIDIFYING THE DISTILLATE GAVE 54PERCENT  
MALONALDEHYDE (AS THE DNPH). VI HEATED 9 HR WITH DIL. HCL GAVE  
30.8PERCENT MALONALDEHYDE AND 51.2PERCENT ME SUB2 N.HI, M. 250DEGREES.  
FACILITY: INST, ORG. KHIM., EREVAN, USSR.

UNCLASSIFIED

USSR

UDC 577.1:615.7/9

BABAYAN, E. A., CHALABYAN, Zh. A., and ARAGATSUNI, A. V.

"Nucleotide Composition of RNA in the Organs of Experimental Animals Subjected to Inoculation with Flotation Agent OPSB [oxidized propylenebutanol]"

Tr. Klinich. otdl. NII gigiyeny truda i profzabolebaniy (Transactions of the Clinical Department of the Scientific Research Institute of Work Hygiene and Occupational Diseases), No 1, 1970, pp 120-123 (from RZh-30F. Biologicheskaya Khimiya, No 11, Jun 71, Abstract No 11F2079)

Translation: Five mg/kg of OPSB was daily administered orally to rats for a period of 4.5 months. A decrease was discovered in the RNA content in cerebral tissue (29.9%) and liver (13%); in addition, the uracyl content in the brain dropped (27.5%) and the guanine content increased (25.8%); in the liver, the cytosine content dropped (14.2%) and the adenine content increased (18.8%)

D. G.

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1/2 011 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--CUPRIC CHLORIDE POTASSIUM ALUMINATE POTASSIUM SILICATE WATER SYSTEM  
AT 20DEGREES -U-  
AUTHOR-(03)-BABAYAN, G.G., GALSTYAN, V.D., OGANESYAN, E.B.  
COUNTRY OF INFO--USSR B  
SOURCE--ARM. KHIM. ZH. 1970, 23(2), 124-7  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY  
  
TOPIC TAGS--COPPER CHLORIDE, X RAY DIFFRACTION, ALUMINUM POTASSIUM  
SILICATE, WATER  
  
CONTROL MARKING--NO RESTRICTIONS  
  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1995/1320 STEP NO--UR/0426/70/025/002/0124/0127  
  
CIRC ACCESSION NO--AP0116/80  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0116780

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYSTEM WAS STUDIED BY THE SOLY. METHOD AND BY MEASURING THE PH, SP. COND., AND THE APPARENT PPT. VOL. FOR CUO IS TO SiO SUB2 PLUS AL SUB2 O SUB3 EQUALS 1 IN THE STARTING MIXT., CU ALUMINOSILICATE WITH THE COMPN. AL SUB2 O SUB3 .2SiO SUB2 NEGATIVE 4 CUO.MH SUB2 O PPTS. FOR OTHER VALUES OF THIS RATIO (0.1 TO 8) PPTS. OF VARIABLE COMPN. ARE FORMED. THE PPTS. WERE STUDIED BY THERMOGRAPHIC, X RAY DIFFRACTION, AND CRYSTALLOPTICAL METHODS. FACILITY: INST. OBSHCH. NEORG. KHIM., EREVAN, USSR.

UNCLASSIFIED



1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--REACTION OF MANGANESE SULFATE WITH SODIUM METASILICATE IN AN  
AQUEOUS SOLUTION -U-  
AUTHOR-(03)-BABAYAN, G.G., VOSKANYAN, S.S., MKRTCHYAN, R.T.  
COUNTRY OF INFO--USSR **B**  
SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3), 491-7  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY  
  
TOPIC TAGS--MANGANESE COMPOUND, SULFATE, AQUEOUS SOLUTION, SODIUM  
COMPOUND, SILICATE  
  
CONTROL MARKING--NO RESTRICTIONS  
  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/1944 STEP NO--UR/0080/70/043/003/0491/0497  
  
CIRC ACCESSION NO--AP0118906  
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0118906

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION BETWEEN MNSO SUB4 AND NA SUB2 SIO SUB3 WAS STUDIED AS A FUNCTION OF THE RATIO MN PRIME2 POSITIVE -SIO SUB3 PRIME2 NEGATIVE IN INTERVALS 0.05-3.0 BY THE FOLLOWING METHODS: SOLY., D., PH, ELEC. CONO. OF THE SOLNS. IN THE ABOVE RANGE, 2 COMPOS. ARE FORMED, AT MN PRIME2 POSITIVE -SIO SUB3 PRIME2 NEGATIVE OF 0.05-0.7, A MN SILICATE WITH A RATIO MNO-SIO SUB2 EQUALS 0.5, AND AT MN PRIME2 POSITIVE -SIO SUB3 PRIME2 NEGATIVE RATIOS OF 0.9-3.0, A MN METASILICATE WITH A RATIO MNO-SIO SUB2 EQUALS 1.0. THERMOGRAPHIC STUDIES USING A QUARTZ BALANCE SHOWED THAT THE DEHYDRATION PROCESS OCCURS CONTINUOUSLY UP TO 30 PERCENT OF H SUB2 O CONTENT WHERE ONLY A SMALL INFLECTION IS OBSO. THE DTA CURVE OF MN SILICATE HYDRATE INDICATES A STRONG ENDOTHERMIC EFFECT AT 90 DEGREES AND A WEAK EXOTHERMIC EFFECT AT 575 DEGREES. X RAY DATA FOR MNSIO SUB3 ARE PRESENTED. FACILITY: ERAVAN. NAUCH. ISSLED. INST. KHIM., EREVAN, USSR.

UNCLASSIFIED

USSR

UDC: 629.78.002.3

NAZARENKO, P. V., BABAYAN, Kh. A., KOROLENKO, Yu. I.

"Wear Resistance of Multilayered Deformed Metals"

Sb. nauch. tr. Kiyev. in-t inzh. grazhd. aviatsii (Collected Scientific Works of Kiev Institute of Civil Aviation Engineers), 1971, vyp. 2, pp 26-28 (from RZh-Raketostroyeniye, No 10, Oct 72, abstract No 10.41.141)

Translation: This article publishes the results of an investigation of the wear resistance of single-component and two-component multilayered metals deformed to large degrees and annealed at various temperatures. The experiments were done on 99.99% pure silver, and on multiple-layer silver-copper and silver-iron specimens. One illustration, bibliography of two titles. Résumé.

1/1

USSR

UDC 581.142.036

BABAYAN, R. S., Laboratory of Induced Mutagenesis in Plants, Academy of Sciences Armenian SSR, Yerevan

"The Effect of Oxygen on the Resistance of Seeds to the Injurious Action of High Temperature"

Leningrad, Tsitologiya, Vol 14, No 1, 1972, pp 60-68

Abstract: Exposure to high temperature, 85-125°C, for 10-30 minutes damages wheat, barley, pea, and onion seeds, as manifested by inhibited growth of sprouts, reduced mitotic activity of cells, and increased number of chromosome aberrations. The injury is greatest in pure oxygen, less in air, and least in nitrogen or argon. On the other hand, the presence of oxygen after heating promotes healing, especially if the seeds are kept in an oxygen-rich atmosphere 1 hr after heating. Thus, oxygen exerts two different effects: in high temperature it magnifies the thermal injury, while during the recovery period it speeds up reparative processes.

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USSR

ASHURLY, Z. I., BABAYAN, V. G., YEMEL'YANOV, Yu. M., MOROZOVA, N. F.,  
FEDOTOVA, T. A.

"Effect of the Frequency on the Ignition Voltage in an Ozonizer"

Moscow, Khimiya i Fizika Nizkoterperaturnoy Plazmy, Moscow University  
Press, 1971, pp 121-125

Abstract: The authors investigate the ignition voltage as a function of frequency in an ozonizer with a 3 mm discharge gap at frequencies of 50, 500, 1000, 2000, and 3000 Hz. The reactor was a flat ozonizer of special design which fed the gas into the discharge zone of the ozonizer. The dielectric barriers were glass plates ground on both sides 1 mm thick and 100 mm in diameter with plexiglass rings glued to the edges to prevent breakdown on the glass surface. Ground aluminum electrodes 70 mm in diameter were applied to the glass plates. It was found that the ignition voltage decreases from 6900 to 5300 volts when the frequency increases from 50 to 3000 Hz. The experimental results agree satisfactorily with theoretical calculations. Two figures, one table, bibliography of ten titles.

1/1

1/2 010 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--DIENE SYNTHESIS WITH THE PARTICIPATION OF 1,4-DICHLORO,  
1,3-BUTADIENE -U-  
AUTHOR--(02)-YENGIBARYAN, R.N., BABAYAN, V.O.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970, 6(4), 675-7 (RUSS) *B*  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CHLORINATED ORGANIC COMPOUND, BUTADIENE, ORGANIC SYNTHESIS,  
CYCLOHEXENE, CONDENSATION REACTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/2045 STEP NO--UR/0366/70/006/004/0675/0677  
CIRC ACCESSION NO--AP0125633  
UNCLASSIFIED

2/2 G1C

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0125633

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONDENSATION OF CLCH:CHCH:CHCL  
(1) WITH H SUB2 C:CHCO SUB2 ME IN THE PRESENCE OF ALCL SUB3 AND  
HYDROCLICNE GAVE 40PERCENT ME 2,5,DICHLOROCYCLOHEXENE, 3,CARBOXYLATE,  
WHICH ON REFLUXING IN KOH-MEDH GAVE BZOH. SIMILARLY, I WAS CONDENSED  
WITH H SUB2 C:CMCO SUB2 ME OR ACCH:CH SUB2 TO GIVE, RESP., ME  
2,5,DICHLORO,1,METHYLCYCLOHEXENE,3,CARBOXYLATE OR  
2,5,DICHLORO,1,ACETYL,3,CYCLOHEXENE.

UNCLASSIFIED

B

USSR

UDC 576.858.095.333

SOLOV'YEV, V. D., MARCHENKO, V. I., DYUYSALIYEVA, R. G., BABAYANTS, A. A., and  
POKIDYSHEVA, L. N., Institute of Epidemiology and Microbiology imeni N. F.  
Gamaleya, Academy of Medical Sciences USSR, Moscow

"Stimulation of Interferon Formation in Producing Cells by Pretreating them with  
Interferon"

Moscow, Voprosy Virusologii, No 2, Mar/Apr 70, pp 150-155

Abstract: Pretreating human and chicken leukocytes, fibroblasts of skin muscle  
tissue of human and chick embryos, human amnion and chorioallantoic membrane of  
chick embryo with interferon results in stimulation of subsequent interferon pro-  
duction in these tissues. Tissues supporting multiplication of the virus-  
inducer (Newcastle disease virus) treated with large doses of interferon showed  
inhibited interferon formation while those treated with small doses exhibited  
stimulated interferon formation. Either large or small doses of interferon  
stimulated interferon production of cells not supporting virus multiplication.  
The stimulating effect reached a maximum after 2 hours, and disappeared after 24  
hours. The stimulation and inhibition process of interferon production is  
species-specific. Stimulation of interferon formation was also observed after  
pretreatment of the tissues with small doses of the virus inducer.

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1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--STIMULATION OF INTERFEROGENESIS IN PRODUCING CELLS BY THEIR  
PRETREATMENT WITH INTERFERON -U-  
AUTHOR-(05)-SOLOVYEV, V.D., MARCHENKO, V.I., DYUYSALIYEVA, R.G.,  
BABAYANTS, A.A., POKIDYSHEVA, L.N.  
COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 150-155

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INTERFERON, LEUKOCYTE, MUSCLE TISSUE, NEWCASTLE DISEASE VIRUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1990/0745

STEP NO--UR/0402/70/000/002/0150/0155

CIRC ACCESSION NO--AP0108951

UNCLASSIFIED

2/2 021  
CIRC ACCESSION NO--AP0108951

UNCLASSIFIED

PROCESSING DATE--18SEP70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRETREATMENT WITH INTERFERON OF HUMAN AND CHICKEN LEUKOCYTES, FIBROBLASTS OF SKIN MUSCLE TISSUE OF HUMAN AND CHICK EMBRYO, HUMAN AMNION AND CHORIO ALLANTOIC MEMBRANE OF CHICK EMBRYO RESULTS IN STIMULATION AND EARLIER START OF SUBSEQUENT INTERFERON PRODUCTION IN THESE TISSUES. TREATMENT OF TISSUES SUPPORTING MULTIPLICATION OF THE VIRUS INDUCER (NEWCASTLE DISEASE VIRUS) WITH LARGE DOSES OF INTERFERON CAUSED INHIBITION OF INTERFEROGENESIS IN THEM, WHILE SMALL DOSES RESULTED IN STIMULATION OF INTERFEROGENESIS. CELLS NOT SUPPORTING VIRUS MULTIPLICATION RESPONDED BY STIMULATION OF INTERFERON PRODUCTION TO TREATMENT WITH BOTH LARGE AND SMALL DOSES OF INTERFERON. THE STIMULATING EFFECT REACHED MAXIMUM AT 2 HOURS AND DISAPPEARED AT 24 HOURS. THE PROCESS OF STIMULATION AND INHIBITION OF INTERFERON AND PRODUCTION IS SPECIES SPECIFIC. ENHANCEMENT OF INTERFEROGENESIS WAS ALSO OBSERVED AFTER PRETREATMENT OF THE TISSUES WITH SMALL DOSES OF THE VIRUS INDUCER.

UNCLASSIFIED

Entomology

USSR

UDC 576.895.771.095.1:631.617

BABAYANTS, G. A., Ashkhabad Scientific Research Institute of Epidemiology and Hygiene

"The Ecology of Anopheles (M.) pulcherrimus Theob. Under the Conditions of an Irrigated Desert"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 41, No 5, Sep/Oct 72, pp 524-531

Abstract: Irrigation and amelioration of the land in the area of the Karakum canal since the construction of this canal, settlement of humans in the area after the opening of the canal, and the development of farming in the area created more favorable ecological conditions for some species of mosquitoes. Anopheles pulcherrimus, which was formerly seldom encountered in the Southeastern Karakums, is at present the most numerous and widely distributed species of malaria-bearing mosquito in the newly irrigated areas in question in that region of Turkmenia. Larvae of this species occur throughout the year. Adult A. pulcherrimus mosquitoes collect in cattle stalls and human dwellings during the daytime in the summer and fall.

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1/2 012 UNCLASSIFIED PROCESSING DATE--18SEP70  
TITLE--ON AUTOGENIC DEVELOPMENT OF OVARIES IN SOME SPECIES OF MOSQUITOES  
OF TURKMENIA -U-  
AUTHOR-(02)-BABAYANTS, G.S., KARAPETYAN, A.B. *B*  
COUNTRY OF INFO--USSR  
SOURCE--MEDITSINSKAYA PARAZITOLOGIYA I PARAZITARNYYE BOLEZNI, 1970, VOL  
39, NR 1, PP 24-29  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MOSQUITO, POPULATION LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1935/0409

STEP NO--UR/0358/70/039/001/0024/0029

CIRC ACCESSION NO--AP0100891

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100891

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OBSERVATIONS OF FEMALE MOSQUITOES OF 12 POPULATIONS BELONGING TO 10 SPECIES IN TURKMENIA PROVED FOR THE FIRST TIME THE CAPACITY FOR AUTOGENIC OVOGENESIS IN *U. UNGUICULATA* EDW., *A. PULCHERRIMUS* THEOB., *ALLOTHEOB. LOGIAREOLATA* MACQ. IN THE MOSQUITO FAUNA OF TURKMENIA AUTOGENIC POPULATIONS OF *AE. CASPIUS* PALL., *CULEX PUSILLUS* MACQ., *C. MODESTUS* FIG., *C. PIPIENS*, *CULISETA ANNULATA* SUBOCHREA EDW. WERE REVEALED. THE CAPACITY OF AUTOGENIC OVOGENESIS WAS FOUND TO BE MOST INHERENT IN POPULATION OF MOSQUITOES INHABITING HOT DRY DESERTS.

UNCLASSIFIED

USSR

B UDC: 632.4.42/.49A/z

GESHELE, E.E., and BABAYANTS, L.T. (All Union Selection and Genetics Institute Odessa)

"Anatomical Characteristics of Wheat Stems Limiting the Development of Stem Rust:

Moscow, Sel'skokhozyaystvennaya Biologiya, No 3, 1970, pp 373-376

Abstract: Many varieties of wheat and their varying degrees of resistance to the stem rust are discussed. Winter wheat is generally more resistant because the wheat stem is fairly well grown and hardened before the rust can take hold. However, it was found that the structure of the stem is the most decisive factor in resistance to rust mycelium. Beneath the epidermis all stems have layers of chlorenchyma and sclerenchyma. Those varieties of wheat which have broad layers of chlorenchyma are more readily infested by mycelium, which feeds on it. Those varieties which have narrow layers of chlorenchyma and rather broad layers of sclerenchyma, or, sclerenchyma encircling the chlorenchyma, are resistant to wheat rust mycelium and greatly limit its development.

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USSR

UDC: 621.396.6.049.7

BABAYANTS, S. S., SAVEL'YEV, B. I.

"Analysis of Registration of the Holes in Ferrite Plates When They are Assembled Into Stacks"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Technology. Scientific and Technical Collection. Microelectronics), 1970, vyp. 5(26), pp 50-65 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V276)

Translation: The authors discuss the possibility of simplifying the process of wire-threading and stacking ferrite multiapertured memory plates for the accumulators in miniature memory elements. Computations are given for registration of the holes of memory plates in a stack for various hole tolerances and distances between centers together with a registration curve which can be used for proper selection of the grade and diameter of wire for threading and stacking memory plates, as well as for evaluating the feasibility of mechanizing this process. Authors' abstract.

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USSR

UDC: [537.226+537.311.33]: [537+535]

BABAYEV, A. A. and AMIRKHAMOVA, D. Kh.

"Mobility of Light and Heavy Holes in Gallium Antimonide"

Sb. nauch. soobshch. Dagestan. un-t. Fizika (Scientific Reports, Daghestan University, Physics--collection of works) No. 1(5), pp 18-27 (from RZh-Fizika, No. 11, 1971, Abstract No. 11E1067)

Translation: Results are given of measurements of the Nernst-Ettingshausen (NE) effects in GaSb monocrystals with various hole concentrations, in the temperature region of 4.2-100° K at magnetic field intensities of up to 28 kOe. The transverse NE effect is negative and goes through a maximum in the low-temperature region. The longitudinal NE effect is positive in the specimens investigated and is a function of the square of H in field intensities of up to 15 kOe. The mobility of the heavy and light holes is computed from the measurement results.

1/1

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USSR

UDC: 621.371.332.3

BABAYEV, A. B., LOGACHEV, V. P., PARFENT'YEV, V. N., FEDOROV, V. A., SHELO-MANOVA, G. P.

"Some Problems of Reflection of a Frequency-Modulated Signal From Forest Cover"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 110, pp 84-86 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8G57)

Translation: Using an experimental model of a radio altimeter with frequency modulation (waveband of 7 cm, deviation of 100 MHz, width of the polar diagram at half power in both planes 25-30°), the authors studied the errors in measurement of flight altitude over a forested surface. The experiments were done over hills of various heights with different types of trees. A singularity was found in the signal reflected from the forest -- beats with two maxima showed up in the signal spectrum. The error in altitude measurement depending on the density and height of forest cover is determined. Three illustrations. N. S.

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USSR

UDC: 621.371.332.3:551.463.7:538.3

BABAYEV, A. B., PAVLOVA, I. A., PRAKHOV, V. P.

"Diagrams of Backscattering From the Surface of the Sea"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute),  
1972, vyp. 110, pp 77-79 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract  
No 8G55)

Translation: The paper presents the results of experimental determination  
of the diagram of backscattering for the surface of the sea. The work was  
done in the Caspian Sea region. The results show the effect of the char-  
acteristics of waving of the sea (widening of the main lobe of the dia-  
gram with an increase in the height of the sea wave). Three illustrations.  
N. S.

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USSR

UDC: 621.371.332.3.01

BABAYEV, A. B., LOGACHEV, V. P., FEDOROV, V. A., PARFENT'YEV, V. N.

"Experimental Investigation of the Characteristics of Reflection From Uneven Ground Surfaces"

Tr. Mosk. energ. in-ta (Works of the Moscow Power Engineering Institute), 1972, vyp. 110, pp 87-89 (from RZh-Radiotekhnika, No 8, Aug 72, Abstract No 8G56)

Translation: An investigation was made of the power of a signal reflected from a ground surface with forest cover as a function of the angle of irradiation of the surface for various types of forest cover (heavy coniferous forest, deciduous, mixed, and so on), and also of the influence which the moisture content of the reflecting surface and cover has on the power amplitude and degree of depolarization of the reflected signal. The results are presented in juxtaposition with data found for the surface of the sea, ice, and plowed ground without cover. Three illustrations, two tables. N. S.

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USSR

UDC 576.895.4

MULYARSKAYA, L. V., KOROBENNIKOV, A. S., DZHEBRILLOV, D. D., BABAYEV, A. G.,  
SHASHNIKOVA, N. V., and MOVSUMOV, M. A.

"Trombiculid Mites (Acariformes, Trombiculidae) of Western Azerbaydzhan"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Biologicheskikh  
Nauk, No 3, 1971, pp 77-82

Abstract: The Institute of Zoology, Academy of Sciences Azerbaydzhan SSR, conducted a study of the distribution of trombiculid mites in Western Azerbaydzhan in 1967-68 jointly with the Azerbaydzhan Antiplague Station. The principal host of these blood-sucking parasites in Western Azerbaydzhan was found to be the red-tailed gerbil (*Meriones erythraurus*) because of the large number of animals of this species. Some significance as hosts of trombiculid mites can also be ascribed to the Asia Minor gerbil (*Meriones tristrami*), house mouse, common and social voles, and the weasel. The number of mites varied with the season and with climatic conditions at various elevations of this mountainous area. The largest number of Trombiculidae species (nine species) infested *Meriones erythraurus*. Weasels were infested exclusively with *Miyatrombitula caucasica*. The bird mite *Neoschoengastia thomasi* was found on forest dormice and the

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MULYARSKAYA, L. V., et al., Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Biologicheskikh Nauk, No 3, 1971, pp 77-82

mite Trombicula callosa, which usually infests lizards, was found to occur on hedgehogs. The most numerous species of trombiculid mites was Micro-trombicula azerbaidjanica, which was followed by Leewenhoekia major.

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- 25 -

USSR  
Alkaloids

USSR

UDC: 547.944/945

BABAYEV, B., ABDULLAYEV, P., SHAKIROV, T. T., "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials

"Isolation of Alkaloids From the Seeds of Haplophyllum Perforatum by the Ion-Exchange Method"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 3, 1973, p 445

Translation: In view of the tranquilizing, antispasmodic and anesthetic properties of alkaloids from seeds of Haplophyllum perforatum, it has been felt necessary to develop a method of extracting these alkaloids. The authors propose an ion exchange method of isolating the alkaloid sum from the seeds of H. perforatum which utilizes weak aqueous solutions of mineral acids (0.5-1%). The procedure involves loading 10 kg of pulverized seeds into a 50-liter extractor, and applying continuous extraction with a 1% solution of sulfuric acid. The acid solution of alkaloids is passed through an adsorber containing 3 kg of KU-1 cation exchange resin in the H-form. The extractant flowrate is 500-550 liters/hr/m<sup>2</sup>. After complete extraction of the alkaloids the adsorber is washed with water and the alkaloids are desorbed with a 1.5% solution of 1/2

USSR

BABAYEV, B., et al., Khimiya Prirodnykh Soyedineniy, No 3, 1973, p 445

ammonia in 92% ethyl alcohol. The alcohol eluate is condensed and the aqueous residue of 3-3.5 liters is acidified with 20% sulfuric acid, triply filtered and washed with chloroform. The washed acid solution is alkalized with 25% ammonia, and the alkaloids are extracted with chloroform. The condensed and dried chloroform extract is dissolved in acetone with heating, activated charcoal is added, and the solution is condensed until the solvent is totally removed after filtering. The residue is 52.4 g of fine yellow crystals.

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- 1 -

USSR

UDC 547.944.3

BABAYEV, B., ARIPOV, Kh. N., and SHAKIROV, T. T., "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials, Academy of Sciences of the Uzbek SSR

"Polybuffer Separation of the Alkaloid Sum from *Petillium Radiana*"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 6, 1970, p 776

Abstract: The authors isolate the alkaloids remaining in the mother liquor of *Petillium radiana* alkaloids after separation of imperialine, edpetiline, petiline, petilidine, petilidinine and petilinine. The mother liquor was dissolved in chloroform, filtered and passed through a polybuffer installation. In addition to the above-mentioned alkaloids, three bases were isolated: base A (pH 7.0, 6.5,  $R_f$  0.15 in chloroform-butanol, ethylacetate (10:2:1)), base D (pH 5.5, 5.0,  $R_f$  0.36 in chloroform-methanol (7:1)), and base V which is a crystalline mixture of two bases (pH 1.0,  $R_f$  0.27 and 0.39 in petroleum ether-chloroform-ethanol (10:1:1)).

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USSR

UDC: 682.26 (81)

BARAYEV, G. B.

"Taxonomic Characteristics of Phytoplankton in the Western Part of the Central and Southern Caspian"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Biologicheskikh Nauk, No 1, 1970, pp 70-73

Abstract: Analysis of phytoplankton collected during the period 1960-1964 in the western part of the Central and Southern Caspian revealed the presence of 198 algal species and varieties as follows: Cyanophyta, 42; Chrysophyta, 1; Bacillariophyta, 110; Pyrrophyta, 23; Euglenophyta, 2; and Chlerophyta, 20. The most abundant are the diatoms, which comprise 110 species belonging to 34 genera. The most varied is the genus *Chaetoceros* (17). *Melosira*, *Thalassiosira*, *Coscinodiscus*, *Nitzschia*, and *Campylodiscus* are represented by one-half to one-third as many species. The distribution of the diatoms varies with the physiochemical conditions in the water. The next most abundant are the blue-green algae, with many species belonging to the genera *Merismopedia*, *Microcystis*, *Gomphosphaeria*, *Anabaena*, *Anabaenopsis*, *Oscillatoria*, and *Lyngbya*. The peridinians, although

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USSR

BABAYEV, G. B., *Izvestiya Akademii Nauk Azerbaydzhanskoy SSR, Seriya Biologicheskikh Nauk*, No 1, 1970, pp 70-73

represented by fewer species than the diatomaceous and blue-green algae, are more abundant than either in some parts of the sea during the summer and fall. *Exuviaella cordata* v. *cordata* is the dominant species and is found in the plankton throughout the year.

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USSR

UDC 621.373.029.7

BABAYEV, I.K., TSYS', S.N.

"Saturation Of The Specific Characteristics Of The Active System 'CO<sub>2</sub> + Air (N<sub>2</sub>) + He'"

Radiotekhnika i elektronika, Vol XVII, No 5, May 72, pp 1090-1093

Abstract: The connection between amplification and the gas temperature is experimentally determined, and a separate study is made of the dependences of the absolute magnitudes of the populations of the upper and lower operating levels. 2 fig. 13 ref. Received by editors, 3 December 1971.

1/1

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USSR

BRATOV, K. B., BABAYEV, I. I.

"Determination of Organic Chloride Pesticides by Thin-Layer Chromatography with Some Modifications"

Publikatsiya Dushanbin. In-ta Epidemiol. i Gigiyeny [Publications of Dushanbe Institute of Epidemiology and Hygiene, No 44, 1971, pp 37-38, (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 N609 by T. A. Belyayeva).

Translation: In order to determine residual quantities of DDT and HCCH in water, they are extracted by  $\text{CHCl}_3$ , the extract is dried over  $\text{Na}_2\text{SO}_4$  for 1 hour, evaporated, the residue is dissolved in hexane and chromatographed on a plate with  $\text{Al}_2\text{O}_3$ , preliminarily activated with UV rays, moving phase hexane, then re-irradiated with UV. The sensitivity of the method is 0.005 mg/l.

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USSR

UDC: 539.171.017

BABAYEV, M. K., YEREMENKO, YU. A., LUKIN, YU. T., and TAKIBAYEV, ZH. S.,  
Institute of High-Energy Physics, Academy of Sciences Kazakh SSR

"Concerning Angular Distribution Asymmetry of Secondary Particles in the  
Center-of-Mass System and Azimuthal Plane With Energies of Several Hundred Gev"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 35, No 10,  
Oct 71, pp 2036-2039

Abstract: Asymmetry in the center-of-mass system of a cosmic-ray shower of charged particles is usually measured by comparing the number of secondary particles moving in the forward direction to the number of secondary particles moving in the reverse direction along the collision axis. This measurement (alpha) may be augmented by considering two new analogous measurements (beta and gamma) that may be taken along the mutually perpendicular axis in the azimuthal plane perpendicular to the collision axis. Several measurements, comparing alpha and beta, were made of a variety of emissions. The results show that beta is sufficiently sensitive in 25 to 50 percent of the cases to provide an indication of asymmetry in emissions based on the single-fireball model. Beta measurements have the additional advantage of verifying the direction of the fireball-primary-particle collision axis.  
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USSR

UDC 616.981.452-022.39-036.23-078.7(479) 8

CHERCHENKO, I. I., OGANYAN, Ye. F., YUNDIN, Ye. V., NAVZEN, P. Ye., YEMEL'YANOV, P. F., GOLUEV, P. D., FILEMONOVA, Yu. A., GONCHAROV, A. I., LAETETS, N. F., BABAYEV, M. R., ANANYAN, Ye. L., and KHANGULYAN, E. K., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus, and Antiplague Stations, Azerbaydzhani SSR and Armenian SSR

"Experience in Serological Detection of Plague in Rodent Nest Substrate and in Predatory Bird Pellets Under Field Conditions in Natural Foci of the Caucasus"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 15-20

Abstract: Use of the antibody neutralization reaction (ANR) employing plague antigenic erythrocyte diagnosticum was studied as a serological alternative to detection of plague by bacteriological analysis, for which it is not always possible to gather test material in the field. The study was based on the experimental finding that plague F1 antigen persists in the environment long after an epizootic has subsided. In the first phase, three areas in the Caucasus in which epizootics had been registered previously were studied in 1969-1971. Samples of rodent nest substrate were found to contain F1 antigen by the ANR, whereas bacteriological methods were generally unsuccessful,

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USSR

CHERCHENKO, I. I., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 15-20

indicating the usefulness of this method for retrospective analysis. In the second phase an area in which epizootics had not been recorded previously was studied in 1970-1971. While the ANR revealed the presence of F1 antigen in rodent nest substrate, bacteriological analysis did not produce such evidence until 4 months later. This result indicated that the method is also preferential for early detection of plague epizootics. In the final phase pellets regurgitated by predatory birds feeding on plague-carrying rodents were subjected to the ANR. Once again F1 antigen was detected in areas without previous epizootic history up to 2 months prior to detection by bacterial analysis. As a control pellets from an area known to be free of plague for 40 years was subjected to the ANR, and the results were negative. Thus the ANR is shown to be a suitable and preferential method for retrospective and early field detection of natural plague foci.

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- 10 -

Acc. Nr:

APD044618

BABAYEV

Ref. Code:

O. G. UR 0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48,

Nr 1, pp 109-115

THE CLINICAL PICTURE AND DIAGNOSIS OF AMEBIC  
ABSCESES OF THE LIVER

Babayev, O. G.

Summary

Under observation were 532 patients suffering from amebic abscess of the liver. The most frequent manifestations of the disease were as follows: enlarged and painful liver with frequent irradiation of the pain to the scapula and clavicle, tension of abdominal muscles, swelling of the skin over the liver, high body temperature and intestinal disorders, neutrophilic leukocytosis in a relative eosinolymphopenia; roentgenologically — along with rigidity and high position of the right diaphragmatic dome, it is important to reveal reactive pleurisy, swelling and adhesions on the contours of the liver, observed by means of pneumoperitoneum. In order to assess the degree of suppurative destruction of the liver, the state of the pathological focus and effectiveness of treatment of importance are investigations of the feces for presence of amebas, the dynamics of C-reactive protein and Weltmann's reaction (sometimes X-ray contrast study of the suppurative cavity). In the differential diagnosis it is expedient to undertake tentative treatment with chloroquine, the ineffectiveness of which for a week should cast doubts of the diagnosis of amebic abscess of the liver.

111

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USSR

UDC 628.58:549.74

ABDULLAYEV, G. B., GASANOV, G. G., MEKHTIYEV, M. A., DZHAFAROV, A. I.,  
MAZANOV, D. M., BABAYEV, R. A., SADYKHOV, S. T., TEPLYAKOVA, G. V., and  
RAGIMOV, R. N.

"Radioprotective Effect of Selenium"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 3, 1973, pp 12-17

Abstract: Sodium selenite administered to Wistar rats 20 minutes after X-irradiation at 490 rad had little protective effect, the survival rate and average life-span being insignificantly higher than in the controls (50% survival rate by day 30). However, the same dose of the compound administered 30 minutes prior to irradiation (intraperitoneally, subcutaneously, or perorally) had a markedly protective effect; the survival rate was 90% and the average life-span  $28 \pm 3.6$  days. When sodium selenite was combined with vitamins E (as an antioxidant) and A (to promote the retention of vitamin E in the body), the protective effect was even more pronounced, the survival rate and average life-span being significantly higher than in the controls (given selenium but not the vitamins).

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USSR

UDC 681.2.087.92

BABAYEV, R.M., TIKHONOV, V.I., KLYSTOVSKAYA, M.D., DMITRIYEVA, L.Ye.

"A Semiconductor Hall emf Pickup"

USSR Author's Certificate No 241546, Filed 9 Mar 67, Published 3 Mar 70 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, Nov 70, Abstract No 11A109P)

Translation: This Author's Certificate introduces a semiconductor Hall emf pickup. To improve the temperature stability of its basic characteristics -- for instance, the voltage transmission coefficient -- the pickup is based on a solid solution of  $\text{In}_{1-x}\text{Ga}_x\text{As}$ , where  $x = 0.15-0.20$ . V.M.

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USSR

UDC:621.651.035.004.6

BABAYEV, S.G., Candidate of Technical Sciences

"Hydroabrasive Wear of Metals by Clay Solution"

Moscow, Vestnik Mashinostroyeniya, No 3, Mar 70, pp 49-51

Abstract: The mechanism of a hydroabrasive wear of metals was studied to find out which metals are most suitable for the manufacture of hydraulic parts for pumps. The study was carried out in a specially designed unit in which conical specimens of various steels, imitating the collar and cone of a valve, were tested. A solution of clay was used as an abrasive medium. It was found that 40Kh steel specimens coated with chromium had the highest, while 40Kh and 30KhGS steel specimens without any coating had the lowest resistance to wear. It is concluded that the microstructure of metal along, with its hardness, essentially affect metal's resistance to a hydroabrasive wear. Presence of residual austenite and ferrite in steel reduces its resistance to wear. Steel with martensitic structure containing carbides has the highest resistance to wear amongst steels with the same surface hardness.

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USSR

B

UDC 546.711'22 + 546.711'23

RUSTAMOV, A. G., KERIMOV, I. G., VALIYEV, L. M., and BABAYEV, S. KH.,  
Institute of Physics, Academy of Sciences Azerbaydzhan SSR

"Electric Properties of MnS and MnSe Single Crystals"

Moscow, Izvestiya Akademii Nauk SSSR, Neorganicheskiye Materialy, Vol  
6, No 7, Jul 70, pp 1339-1340

Abstract: The authors prepared single crystals of the compounds MnS  
and MnSe by the method of chemical transport reactions and studied  
their conductance and thermo EMF. Data are given on the temperature  
dependence of the conductance and thermoelectric coefficient.

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USSR

UDC 535.324:547.97

BABAYEV, T. B., AL'PEROVICH, L. I.

"The Optical Characteristics of Dye Monomers and Dimers in Solutions"

Leningrad, Optika i Spektroskopiya, No 3, September 1970, pp 488-492

Abstract: Monomer-dimer equilibrium in concentrated dye solutions has been investigated on the basis of absorption spectra in a series of studies. Measurements of the absorption-coefficient and refraction-index spectra were conducted for rhodamine 6G, rhodamine B, and sodium eosin. The absorption spectra of the monomers and dimers of rhodamine 6G do not differ materially from the data of previous studies; but for rhodamine B and sodium eosin the absorption spectra differ quantitatively to a considerable degree from previously obtained data, while remaining in qualitative agreement with them. 4 figures, 1 table, 6 bibliographic entries.

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1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--CALCULATION OF THE INFLUENCE OF AN EFFECTIVE LIGHT WAVE FIELD ON  
THE ELECTRONIC SPECTRA OF CHLOROPHYLL A SOLUTIONS AND FILMS -U-  
AUTHOR--(02)-BABAYEV, T.B., ALPEROVICH, L.I.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(4), 810-11

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, PHYSICS

TOPIC TAGS--CHLOROPHYLL, SPECTRUM, LIGHT RADIATION EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/1793

STEP NO--UR/0051/70/028/004/0810/0811

CIRC ACCESSION NO--AP0127207

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0127207

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTRONIC SPECTRA OF CHLOROPHYLL A IN SOLNS. AND FILMS WERE CALCD. BY MEANS OF THE LORENTZ AND ONSAGER MODELS. THE ONSAGER MODEL LEADS TO A SPECTRUM WHICH IS SHIFTED TOWARDS SHORTER WAVELENGTHS IN COMPARISON WITH THE EXPTL. ONE. WHEN THE ONSAGER RADIUS OF THE MOL. WAS ASSUMED TO BY 5-6.5 ANGSTROM, THE SPECTRA, CALCD. ON THE BASIS OF AN ISOTROPICALLY POLARIZED OSCILLATOR, WERE IDENTICAL FOR SOLNS. AND FILMS.

UNCLASSIFIED

USSR

UDC 534-8:621.373.4

BABAYEV, V.G.

"Concerning A Comparative Analysis Of The Sensitivity Of Broad-Band Tube And Transistorized Ultrasonic-Range Amplifiers"

Tr. Mosk. energ. in-ta (Works Of The Moscow Power Institute), 1972, Issue 100, pp 59-61 (from RZh:Elektronika i yeye primeneniye, No 7, July 1972, Abstract No 7A286)

Translation: For determination and comparison of the sensitivity of tube and transistorized amplifiers, the dependence of the noise factor  $F_n$  on the amplifier bandwidth is considered. Taking advantage of the common equivalent noise circuit of a tube and a transistorized amplifier, a theoretical expression is obtained for the noise factor, with the magnitude of the equivalent-noise bandwidth taken into account. The experimental dependences  $F_n f$  ( $\Delta f_n = n$ ) (this print in RZh) are presented, taken by the method of doubling the power with the G2-1 noise generator, with an invariable medium frequency of the amplifier  $f_n = 2$  MHz. In the range of values  $\Delta f_n = 0.1 -- 1$  MHz, the magnitude  $F_n$  practically does not change. In the entire range of values  $\Delta f_n$ , the tube amplifiers are more sensitive than transistorized amplifiers. 2 ill. 5 ref. N.B.

1/1



Acc. Nr:

AP0047771

Ref. Code:

JK 0296

PRIMARY SOURCE: Izvestiya Akademii Nauk Turkmenkoy SSR, Seriya  
Biologicheskikh Nauk, 1970, Nr / , pp 52-65

Ya. Babayev, M. Sapargeldiyev

HELMINTHOFAUNA OF OCHOTONA RUFESCENS AND SOME FEATURES  
OF ITS DEVELOPMENT IN DIFFERENT AREAS OF KOPETDAG.

260 individuals of (*Ochotona rufescens* Thomas, 1911) have been investigated after Skryabin. 16 kinds of helminths have been discovered. The reasons of uneven infection of *Ochotona rufescens* by helminths are described.

REEL/FRAME  
19791394

USSR

BARAYEVA, A. Kh.; SULTANOV, F. F.; SEREBRYAKOV, Ye. P.:  
TODRIS, I. I.; STEFANOVSKAYA, N. V.; YELDASHEV, A. Ye.

Ashkhabad, Voprosy fiziologicheskikh mekhanizmov adaptatsii  
organizma k zharkomu klimatu, (Aspects of the Physiological  
Mechanisms of Adaptation of the Organism to a Warm Climate),  
"Ylym," 1970, 172 pp

Translation:

<u>Table of Contents</u>	<u>Page</u>
Introduction	5
Some Questions of water-salt balance	18
The function of the kidneys in reaction to high temperature	60
Oxidative phosphorylation and the role of kidney mitochondria in the regulation of glycolysis	81
Adaptive reactions of the adrenal cortex glands in hot climates	104

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USSR

BABAYEVA, A. Kh., et al, Voprosy fiziologicheskikh mekhanizmov adaptatsii organizma k zharkomu klimatu, "Ylym," 1970, 172

The content of free amino acids in the blood plasma  
of humans and animals in the hot climate of  
the Turkmen SSR

136

Compensatory-adaptive reactions during the con-  
striction of the aorta in a hot climate

145

2/2

USSR

UDC 591.461.2:612.014.43

SULTANOV, F. F., BABAYEVA, A. Kh., and KARIMOVA, R. I., Institute of Physiology and Experimental Pathology of Arid Zones, Academy of Sciences Turkmen SSR

"Energy Metabolism in the Kidneys of Albino Rats Exposed to Extreme Heat"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Biologicheskikh Nauk, No 5, 1970, pp 52-56

Abstract: Albino rats were kept in an overheated chamber (45°C) and the changes in their kidney function studied. Aerobic glycolysis in solutions of the cortical and medullary layers from the kidneys was accelerated. The oxidative phosphorylation coefficient P/O in the mitochondria decreased; this may result in a reduction of ATP production. Likewise, the amount of mitochondrial protein in the kidneys per gram of raw tissue weight decreased.

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USSR

UDC 591.461.2.591.147.4

RABAYEVA, A. KH., PUCHKOVA, L. V., and TUROVSKIY, V. S., Institute of Physiology and Experimental Pathology of the Arid Zone, Academy of Sciences, Turkmen SSR

"Participation of Mitochondria in the Mechanism of Action of Antidiuretic Hormone"

Ashkabad, Izvestiya Akademii Nauk Turkmenkoy SSR, Seriya Biologicheskikh Nauk, No 2, 1971, pp 47-51

Abstract: Intramuscular injection of antidiuretic hormone (ADH) to white rats after a water load altered the potassium and sodium content of the mitochondria in both layers of the kidneys. The sodium concentration increased while the potassium concentration remained unaffected. More sodium and less potassium were present in the medullar mitochondria than in the cortical mitochondria. The hormone also stimulated oxygen uptake by the mitochondria and decreased phosphorylation while intensifying the formation of lactic acid in the hyaloplasm. Thus, the mitochondria in both functional layers of the rat kidneys take an active part into the processes involved in maintaining homeostasis. They supply the required energy by intensifying glycolysis and altering the rate of oxidative metabolism. At the same  
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USSR

BABAYEVA, A. KH., et al., Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Biologicheskikh Nauk, No 2, 1971, pp 47-51

time they regulate the ion composition of the cells, thereby stabilizing the water-salt equilibrium.

2/2

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1/2 031 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--NEW CIS-DIETHYLENEDIAMINE COMPLEXES OF IRIIDIUM,III -U-  
AUTHOR--(03)-BARANOVSKIY, I.B., KOVALENKO, G.S., BABAYEVA, A.V.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 954-7  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ETHYLENEDIAMINE, IRIIDIUM COMPOUND, COMPLEX COMPOUND,  
PERCHLORATE, IR SPECTRUM, ELECTRIC CONDUCTIVITY  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3002/1214 STEP NO--UR/0078/70/015/004/0954/0957  
CIRC ACCESSION NO--AP0128632  
UNCLASSIFIED

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UNCLASSIFIED

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ABSTRACT/EXTRACT--(U) GP-C- A3STRACT. WHEN NaOH WAS ADDED TO YELLOW SOLN. OF CIS-(IR(EN) SUB2 CL SUB2)CL (I) THE SOLN. DECOLORIZED TO FORM (IR(EN) SUB2 (OH) SUB2)OH (ABSORBANCE MAX. AT 227 NM), WHICH FAILED TO SEP. BUT ON NEUTRALIZATION WITH HClO SUB4, (CIS-(IR(EN) SUB2 (H SUB2 O) SUB2)(ClO SUB4) SUB3 (MAX. AT 262 NM) PPTD. ACID DISSOCN. CONSTS. OF THE DIAQUO COMPLEX WERE K SUB1 EQUALS 2.3 TIMES 10 PRIME NEGATIVE6 AND K SUB2 EQUALS 1.6 TIMES 10 PRIME NEGATIVE8. CIS-(IR(EN) SUB2 (H SUB2 O) SUB2) PRIME3 POSITIVE REACTED WITH CORRESPONDING ACIDS OR THIOUREA (THIO) OR NA SUB2 SO SUB3 TO GIVE CIS-(IR(EN) SUB2 HClO SUB2)BR SUB2, CIS-(IR(EN) SUB2 (THIO) SUB2)(IRCL SUB6), CIS-(IR(EN) SUB2 (NASO SUB3) SUB2)ClO SUB4, AND CIS-(IR(EN) SUB2 (NO SUB2) SUB2)ClO SUB4. REACTION OF I WITH NA SUB2 SO SUB3 GAVE CIS-(IR(EN) SUB2 ClSO SUB3). IR SPECTRA AND ELEC. CONDS. OF THE COMPLEXES ARE GIVEN. FACILITY: INST. OSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED



USSR

UDC: 517.917

BABAYEVA, E. (Turkmen State University imeni A.M. Gor'kiy)

"Some Differential Inequalities and their Applications"

Ashgabat, Izvestiya Akademii Nauk Turkmeniskoy SSR: Seriya Fiziko-Tekhnicheskikh, Khimicheskikh, i Geologicheskikh Nauk, No 5, 1970, pp 3-9

Abstract: The author presents proofs for six theorems on partial differential inequalities. The first theorem can be used for evaluating solutions for second-order partial differential equations in functional spaces. It can also be used for determining approximate solutions for this type of equation using the Chaplygin method. Theorem two is used for obtaining various single-ended limits. The remaining theorems are used for boundary value problem solutions based on theorems one and two. Similar work with ordinary derivatives was done by M.A. Krasnosel'skiy, A.Yu. Levin, and Ya. D. Mamedov. Original article: 15 formulas and four bibliographic entries.

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USSR

UDC 547.341+547.26.118

ISMAILOV, V. M., NOSKVA, V. V., BABAYEVA, T. A., AKHMEDOV, SH. T., RAZUMOV, A. I.,

"Amido Acid Chlorides and Ether Amides of  $\beta$ -Alkoxyvinyl Phosphonic and Thiophosphonic Acids"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2 (84), 1973, pp 52-54

Abstract: Partial amidization of acid dichlorides of  $\beta$ -alkoxyvinyl phosphonic and thiophosphonic acids leads to obtaining of dialkylamido acid chlorides which with alcohol give ester dialkylamides of  $\beta$ -alkoxyvinyl phosphonic acids. These ester dialkylamides were also obtained by amidizing ether acid chlorides and by alcoholysis of tetraalkyl diamides of these acids. The experimental procedures for synthesizing diethylamides of the acid chloride of  $\beta$ -ethoxyvinyl phosphonic and thiophosphonic acids and the ethyl ester of diethylamide of  $\beta$ -ethoxyvinyl phosphonic acid are given with the yields and other physical and chemical characteristics. A schematic is given for the mutual transformations of the amides, amide acid chlorides, ether acid chlorides and ether amides.

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CSSR

UDC 547.26.118+547.341

ISMAILOV, V. M., MOSKVA, V. V., BABAYEVA, T. A., AKHMEDOV, SH. T.  
and RAZUMOV, A. I., Kazan Institute of Chemical Technology imeni  
Kirov, and Azerbaydzhani State University imeni Kirov

"Mixed Esters and Ester Chloroanhydrides of  $\beta$ -Alkoxyvinylphos-  
phonic and -Thiophosphonic Acids"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 4, 1972, pp 47-49

Abstract: Mixed dialkyl and alkylaryl esters of  $\beta$ -alkoxyvinyl-  
phosphonic acids were synthesized by reacting ester chloroanhy-  
drides with alcohols (1 mole) or phenol at 0-5°C under a current  
of dry CO<sub>2</sub> in the absence of HCl acceptor. Treatment of the  
mixed dialkyl esters with PCl<sub>5</sub> yielded the corresponding chloro-  
anhydrides by substitution of Cl for the different alkoxy groups.  
Conditions were determined for the substitution of Cl atoms for  
the alkoxy groups (2 on the P atom and 1 on the C atom) by react-  
ing diethyl- $\beta$ -ethoxyvinylphosphonate with PCl<sub>5</sub> in CCl<sub>4</sub>. At 40-  
50°C one of the alkoxy groups on the P atom is replaced by Cl  
giving the appropriate ester chloroanhydride. Reaction of the  
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USSR

ISMAILOV, V. M., et al., Azerbaydzhanskiy Zhurnal, No 4, 1972, pp 47-49

latter with an additional portion of  $\text{PCl}_5$  at  $70-80^\circ\text{C}$  results in the corresponding ester chloroanhydride of  $\alpha$ -chloro- $\beta$ -ethoxyvinylphosphonic acid, in which treatment with excess alcohol in the cold replaces one of the Cl atoms on the P atom with an alkoxy group, and on further reaction with  $\text{PCl}_5$  at  $110^\circ\text{C}$  yields the dichloroanhydride of  $\alpha$ -chloro- $\beta$ -ethoxyvinylphosphonic acid. The above approach may be utilized to replace 2 or 3 of the alkoxy groups with Cl. The resultant chloroanhydrides are readily distilled liquids with a characteristic odor, and are stable on long-term storage in the cold.

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UDC 547.341 + 546.185'131

ISMAILOV, V. M., MOSKVA, V. V., BABAYEVA, T. A., RAZUMOV, A. I., AKHMEDOV, SH. T., ZYKOVA, T. V., and SALAKHUTDINOV, R. A., Kazan' Chemical-Technological Institute Imeni S. M. Kirov, and Azerbaydzhan State University Imeni S. M. Kirov

"Derivatives of Substituted Vinylphosphonic Acids. XV. Reaction of Phosphorus Pentachloride With  $\alpha, \beta$ -Dichlorovinyl Alkyl Ethers"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1011-1113

Abstract: It was shown that  $\alpha, \beta$ -dichlorovinyl alkyl ethers react with phosphorus pentachloride in an inert solvent such as benzene or carbon tetrachloride at 0-5° forming a complex which after decomposition with hydrogensulfide yields  $\alpha, \beta$ -dichloro- $\beta$ -alkoxyvinylphosphonic or thiophosphonic acid dichlorides. The reaction is sensitive to temperature; increased temperature lowers the phosphorylation products and increases the byproducts. Analogous derivatives may be obtained by high temperature chlorination of  $\beta$ -alkoxyvinylphosphonic acid dichlorides.

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USER

UDC 621.314.61

ZASORIN, S.N., BABANEVA, V.M., BYADOROV, A.L.

"Experimental Investigation Of The Possible Use Of A Shunting Thyristor For Protection From Overvoltages Of The Silicon Rectifiers Of Static Converters"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works Of The Moscow Institute Of Railway Transportation Engineers), 1970, Issue 340, pp 36-42 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No 4B676)

Translation: The results are presented of an experimental investigation of the possibility of protection from overvoltages of the fundamental [semiconductor] rectifiers of the rectifier of a booster device, which is connected in series with a contact net with the aid of shunting thyristors. 4 ill. 1 tab. 6 ref. Summary.

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UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,

2170

243749 ELECTROLYTIC TEST RIG to simulate the boiling of a current conductive liquid in a homogeneous nuclear reactor is a glass tray which is sealed on two sides by ion exchanger (cationactive) diaphragms, lined on both sides with kapron. The electrodes are accommodated in metal side caps which are held tight together by tie rods.

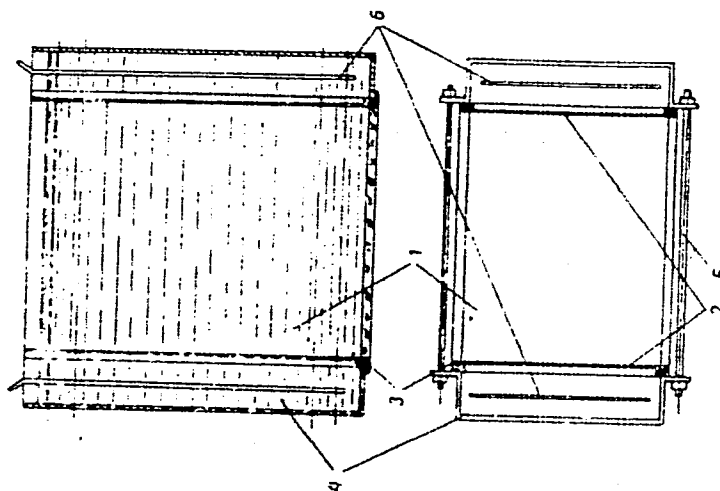
6.11.67. as 1195551/18-10, SUBOROV, L. Ya. et al. (1.10.69.) Bul. 17/14.5.69. Class 21h, Int. Cl. F 23k.

Suvorov, L. Ya.; Kurtsman, Ye. D.; Babaytsev, V.P.

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Als



Organophosphorous Compounds

USSR

UDC 678.6

EFENDIYEV, A. A., ABBASOVA, B. G., BABAZADE, S. N., ORUDZHEV, D. D., KHUDIYEV, A. K.

"Synthesis and Sorption Properties of Phosphorus Containing Selective Poly-electrolytes"

Baku, Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2 (84), 1973, pp 97-99

Abstract: A description is given of the synthesis of complex-forming films based on copolymers of diethyl ether of vinylphosphonic acids and acrylic acid with different ratios of the components. A study is made of their sorption properties as a function of the copolymer composition. Tabulated data are presented which show that it is more difficult for the diethyl ether of vinylphosphonic acid to enter into the copolymerization reaction than acrylic acid -- for all monomer ratios in the initial mixture, copolymers are obtained which are impoverished with respect to the ether.

A study was made of the sorption properties of cross-linked films with respect to K, Na, Ca, Mg, Ba, Zn and Cu ions in solutions with a concentration equal to 0.1 normal by the static method. Films based on the copolymers of all compositions (including the homopolymer of acrylic acid) fail in practice to extract ions of alkali and alkali-earth metals from water solutions of their chloride and sulphate salts. The films extract K and Na ions only in 1/2

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UDC 678.6

EFENDIYEV, A. A., et al., Azerbaydzhanskiy Khimicheskiy Zhurnal, No 2 (84), 1973, pp 97-99

an alkaline medium. The films are capable of extracting copper ions from neutral and even weakly acid solutions which indicates the occurrence of complex formation.

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Steels

USSR

UDC 669.15-194.001.6

BABCHENKO, S. L., KARP, S. F., APTEKAR', N. M., YASHNAYA, G. V., and  
D'YACHENKO, A. Z.

"Effect of Nickel on the Impact Toughness of G13L Steel During Explosion  
Hardening"

Dnepropetrovsk, Metallurgicheskaya i Gornorudnaya Promyshlennost', No 4,  
Jul-Aug 70, pp 40-41

Abstract: A study was made of the effect of nickel additions on the impact toughness of G13L steel in the temperature range from +20 to -40°C after explosion hardening. The impact toughness of the standard metal before explosion hardening was 21.8 kg/cm<sup>2</sup>; the nickel-alloyed metal had an impact toughness of 22.7 kg/cm<sup>2</sup>. Explosion hardening produced work hardening through the entire thickness of the metal. The hardness reached 33-35 RC, the reduction in thickness was up to 1 mm (initial thickness 11 mm). Impact toughness was significantly decreased, although G13L steel alloyed with nickel retains plasticity to a greater extent than steel of the standard composition. At -40°C, the impact toughness of the standard steel is sharply reduced after explosion hardening, whereas the nickel-

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USSR

BABCHENKO, S. L., et al, Metallurgicheskaya i Gornorudnaya Promyshlennost',  
No 4, Jul-Aug 70, pp 40-41

alloyed steel shows only a slight decrease in impact toughness at this  
temperature.

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